

Claims

1. A process for the oxidation of starch, wherein a root or tuber starch comprising at least 95 wt.% of amylopectin, based on dry substance of the starch, is treated with an alkali metal hypochlorite and the resulting product is subjected to an alkaline treatment, said treatment comprising keeping the product for at least 15 minutes at a temperature of 20-50°C and a pH higher than 10.

2. A process according to claim 1, wherein the starch is potato or tapioca starch.

3. A process according to claim 1 or 2, wherein the alkaline treatment lasts at least 30 minutes, preferably at least 60 minutes.

4. A process according to any of the preceding claims, wherein the alkaline treatment is performed at a pH higher than 10.5.

5. A process according to any of the preceding claims, wherein the alkali metal hypochlorite is sodium hypochlorite.

6. A process according to any of the preceding claims, wherein the starch is treated with the oxidizing agent at a pH between 6 and 10, preferably between 6.5 and 8.5.

7. An oxidized starch obtainable by a process according to any of the preceding claims.

8. An oxidized starch, wherein

$$(I.V. * ZGT)^{-1} \geq X, \text{ and}$$

$$BU_{top} / BU_{90-20} \leq Y,$$

wherein I.V. is the intrinsic viscosity of the oxidized starch;

ZGT is the acid number of the oxidized starch;

BU₉₀₋₂₀ is the Brabender viscosity of the oxidized starch after being held for 20 minutes at 90°C, measured using the oxidized starch in a concentration resulting in a BU₉₀₋₂₀ between 100 and 500 BU;

BU_{top} is the peak Brabender viscosity of the oxidized starch, measured at the same concentration as the BU₉₀₋₂₀;

X is 0.015, preferably 0.017, more preferably 0.019; and
Y is 17, preferably 13, more preferably 10.

~~9. The use of an oxidized starch according to claim 7 or
8 as a binder in paper coatings or surface sizings, as an
adhesive, a protective colloid for stabilizing emulsions, in
warp yarn sizing, as a coating of glass fibers, as a blanket
adhesive, and in abrasive paper or in food products.~~

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